

1	SAFETY RELEASE	42	ROOF OR FLOOR DRAIN FLASHING TYPE
2	.With frangible or deformable element	43	.Angled
3	FRANGIBLE ELEMENT	44	..Adjustable pitch
4	.Score line or groove	45	WITH CASING, LINING OR PROTECTOR
5	IRRIGATION TYPE (GUIDE AND SUPPORT)	46	.Escutcheon type
6	.Released by conduit motion	47	.Insulated
7	VACUUM CLEANER TYPE	48	..Between serially connected parts
8	FAUCET TYPE (E.G., SLIP-ON)	49	...Intermediate resilient conduit (noise-dampener)
9.1	WITH MAGNETIC ELEMENT	50	...By intermediate joint
9.2	CONTACT ONLY	51	....Ball and socket
10	LIQUID SEAL	52	....Screw thimble
11	.With relative motion	53	...Sleeve
12	CONVERTIBLE	54	...Socket
13	WITH LEAKAGE OR DRIP DISPOSAL	55	.Lined
14	.Weep holes	56	WATER CLOSET TYPE, FLOOR-SUPPORTED
15	REPAIR	57	.Flexible diaphragm or bellows
16	.Removable wear element	58	.Intermediate coupling
17	..Alternate wear parts	59	..Tapered spigot
18	WITH ASSEMBLY MEANS OR FEATURE	60	.Tapered spigot
19	.Spaced plates	61	WITH SUPPORT
20	..Penetrating	62	.Vehicle
21.1	.Molded joint facilitator	63	..Railway
21.2	..Having embedded facilitator	64	.Static building construction
21.3	..Having solvent facilitator	65	IDENTICAL HALVES (E.G., TRAIN LINE TYPE)
22	..Spacing means (e.g., lugs)	66	.With intermediate sleeve
23	.With holding means functioning only during transportation assembly or disassembly	67	.Side slide
24	.Guide and support	68	.Transverse port
25	..Plural noncommunicating (e.g., train pipe type)	69	..Auxiliary detent
26	...With latch or lock	70	.Longitudinal port
27	.Guide	71	..Pivoted hook or loop
28	..Plural noncommunicating	72	...Auxiliary detent
29	...With latch or lock	73	..Integral hook
30	.Combined inlet and outlet	74	...Oscillating engagement
31	.Inserted section	75	....Reciprocating conduit
32	..Threaded telescopic	76	....Auxiliary detent
33	.Quick release	77	.....Reciprocating
34	..Radially moved segmented threads (e.g., chuck type)	78	.....Key or wedge
35	...Pivoted segments	79	...Auxiliary detent
36	.Attached thread-jamming preventer	80	WITH LOCK OR SEAL
37	.With winder for packing or clamp	81	WITH MEANS BLOCKING RELEASE OF HOLDING MEANS
38	.Handle or handwheel for rotary engagement	82	.Auxiliary latch
39	.Particular tool-engaging means or with tool	83	..Line pressure-responsive
40	.Thread-cutting means	84	..Reciprocating
41	WITH HEATING OR COOLING	85	...With manipulator
		86	...Locking sleeve
		87	..Pivoted
		88	...With manipulator
		89	.Lock nut or washer

90	.Set screw	123.3	..Having single suspended inner tube
91	.Key or pin	123.4	...Split ring type suspension means
92	.Thread lock	123.5	...Having inner tube anchored by slip means
93	WITH INDICATOR, ALARM OR INSPECTION MEANS	123.6	....Including packing means
94	WITH LUBRICATION	123.7	....Having means engaging slip means and compressing packing means
95	WITH FLUID PRESSURE SEAL	123.8	.....By bolt directly connecting slip means to packing means
96	.With external pressure supply	123.9	....Having radially applied orienting means
97	..Inflated member	123.11	...Having slip means actuator
98	.Swivel with flange in socket	123.12	...Including a seal
99	.Coacting opposing duplicate	123.13	...Held by a means applied radially (e.g., set crew)
100	.With expansible chamber means	123.14	...Compressed by tightening a bolt coaxial to tubing
101	..Piston-type reactor	123.15	..Double-walled or duplex joint
102	...With line pressure-responsive catch	123.16	...Wall configured as mating complementary type (e.g., hot air ducts)
103	...Side slide	123.17	..Joint fabricated from material to compensate for movement
104	.With separate, encased pipe-gripping means	124.1	.Parallel paths
105	..Packing-actuated	124.2	..Having spacer means for pipes or tubes
106	.Independent supply passage	124.3	...Apertured plate type
107	.Expansible shank	124.4	...Including a fitting, boss, or nipple means
108	.Separate retainer or positioner	124.5	..Located within block type connector for ducts
109	.Expansible internal sleeve-type gasket	125.1	FOR BRANCHED PATH
110	.Flexible lip	126.1	.Having an access opening and removable cover
111	..C-shaped section	127.1	.Including a swivel joint
112	...Longitudinal web	127.2	..Double Y-type
113	.Wedged gasket	128.1	.Allowing for movement parallel to path (e.g., expansion joint)
114	WITH STRAIN RELIEF	129.1	.And having additional, integral fitting, branch, or coupling for a means such as a vent
115	.Extension of socket or sleeve	129.2	..Plus a bend, flange, pocket, or chamber for antisiphon
116	..Separable	130.1	.Intersecting paths (e.g., X- or cross-type)
117	WITH BROKEN PARTS RETAINER	131.1	.Y-type, (symmetrical along the centerline)
118	KNUCKLE JOINT WITH ACTUATING MEANS	132.1	.(Y-type) having a straight portion and an angled leg
119	COMBINED	133.11	.T-type
120.1	HAVING PLURAL INDEPENDENT PATHS		
121.1	.Allowing relative motion of pipes		
121.2	..Revolvable and telescoping		
121.3	..Revolvable		
121.4	...Having spring biasing for maintaining a leak-proof seal		
121.5	...Having specific bearing structure		
121.6	..Swiveling		
121.7	...Ball and socket type		
122.1	.And at least one path having branched flow		
123.1	.For concentric tubes or pipes (e.g., well casing or wellhead type)		
123.2	..Having plural parallel suspended inner tubes		

- 133.21 ..Having a seal, gasket, O-ring, or packing
- 133.3 ..Having a pipe-receiving bell, socket or mouth
- 133.4 ..Having threaded portions
- 133.5 ..Having reinforcement
- 133.6 ..For thin-walled material (e.g., sheet-metal)
- 134.1 **U-TYPE (E.G., RETURN BEND)**
- 135.1 ..Detachable
- 135.2 ..Having yoke-type clamp
- 135.3 ...Having a removable bushing
- 135.4 ..Having coupling sleeve
- 135.5 ...Secured by bolt
- 136.1 **PIPE TO DISCREET NIPPLE OR SLEEVE TO PLATE (I.E., THREE SUCCESSIVE PIECES)**
- 137.11 ..Pipe to nipple connection dependent on nipple to plate connection
- 138.1 ..Ball and socket
- 139.1 ..Plate clamped between flanged nipple and separate fastener
- 139.2 ..Nipple includes seal
- 139.3 ..Nipple includes securing means
- 140.1 ..Expandable detent engages plate to hold nipple
- 141.1 ..Nipple sealed to plate
- 142.1 ..Nipple bolted to plate
- 143.1 ..Nipple threaded to plate
- 144.1 **SERIAL, RELATIVELY MOVABLE PORTIONS**
- 145.1 ..Having telescoping portion
- 145.2 ..Pivot or swivel
- 145.3 ..Ball connector
- 145.4 ..Sleeve
- 145.5 ...Bellows-type
- 146.1 ..Linked ball and socket portions
- 146.2 ..Having multiplex socket
- 146.3 ..Having ball between opposed sockets
- 147.1 ..Plural swivels
- 147.2 ..Having spring
- 147.3 ..Having nozzle
- 148.1 ..Serial diverse single flow path or line
- 148.3 ..Flexible
- 148.5 ..Intermediate joint with expansible spigots
- 148.6 ..Compound coupling (e.g., leak-gland type)
- 148.7 ...Having molded or bonded joint
- 148.8Having bolted or screwed flange or clamp
- 148.9 ..Having bonded component
- 148.11 ..Diverse materials
- 148.12 ...Having bonded component
- 148.13 ...Nonmetal to metal
- 148.14Quick connect or release
- 148.15Having swivel
- 148.16Having serrated nipple
- 148.17Having clamp
- 148.18Reducer
- 148.19 ..Diverse coupling interfaces
- 148.21 ...Quick connect or release
- 148.22 ..Diverse size or shape
- 148.23 ...Reducer
- 148.24Sheet-metal (e.g., stove duct, etc.)
- 148.25Having bolted flange
- 148.26Having clamp
- 148.27 ...Eccentric
- 148.28 ..Having bolted or screwed flange or clamp
- 148.2 ..Quick connect or release
- 148.4 ..Having swivel
- 149.1 **CONNECTOR FOR CONDUIT HOUSING ELECTROMAGNETIC LINE:**
- 150.1 ..Underground
- 151.1 ..Water tight
- 152.1 ..Multiple passage
- 153.1 ..Including swivel
- 153.2 ..Having plural swivels
- 153.3 ..Having swivel and spring
- 154.1 ..Having box and connector
- 154.2 ..Including flexible armored sheath
- 154.3 ...Including screw operated clamp
- 154.4 ..Including screw operated clamp
- 179 **ELBOW**
- 179.1 ..With access opening
- 179.2 ..Sheet-metal
- 180 ..Cooperating saddle clamp
- 181 ..Serially connected, adjustable
- 182 ..Nesting parts
- 183 ..Sheet metal
- 184 **ADJUSTABLE ANGLE**
- 185 ..With center bolt
- 187 **TEMPERATURE-RESPONSIVE**
- 188 **SIDE TO PIPE SIDE**
- 189 **END TO SIDE OR PLATE (E.G., REINFORCEMENT)**
- 190 ..Swivel with lateral port to annular sleeve
- 191 ..Bolt or hook in flow (e.g., center bolt)
- 192 ..Penetrating (e.g., secant)
- 193 ..Fixture

194	..Hole edge clamp	237	..With spigot and socket ends
195	...Transverse screw	238	NONMETAL TO METAL
196	.Expansible packing on spigot	239	.Internal member (e.g., sleeve or nipple)
197	.Saddle-type clamp	240	..Flexible tip pipe
198	..Yoke with radial screw at bight	241	...External clamp
199	..Yoke with thread on free ends	242	..External clamp or holder
200	.Flexible or yielding plate	243	...Movable jaw
201	.Sput	244	...Spring
202	..Interlocked	245	...Screw-compressed
203	...Plate edge locks sput	246	....Thimble gland
204	...Packed	247	....Thimble
205	..Clamped plate	248	.....Separable means between hose and clamp
206	...Screw clamp	249	.....Wedge ring
207	....With conduit clamping means	250	....Gland
208	....Attachable from one side of plate	251	....Screw-fed hose
209	.....Lugged nipple	252	...Band clamp with tightener
210	.....Movable lug	253	....Bolted
211	.Countersunk packed	254	...Wrapped band
212	..Screw-compressed	255	...Wedge
213	.Gland	256	...Deformation
214	..Internal with expanding means	257	....Bendable spur fingers
215	..External of conduit	258	....Expanding internal member
216	...Expansible	259	...Particular surface
217	....With conduit clamping means	260	BOTH MEMBERS PLIABLE AND NONMETAL
218	....Transverse screw	261	BALL AND SOCKET
219	.Screw	262	.With internal tie means
220	..With packing	263	.Radially spaced spherical surfaces
221	..Necked plate	264	.Oscillative
222	.Expanded or swaged pipe	265	..With gimbal ring
222.1	FOR PLURAL COMPONENT LINE (E.G., FLEXIBLE TYPE)	266	.Composite ball
222.2	.Metal, elastomeric (e.g., rubber), and fabric layers	267	.Spring-biased packing
222.3	.Elastomeric and fabric layers	268	.Spring-biased ball
222.4	.Metal and elastomeric layers	269	..Socketed spring
222.5	.Distinct metal layers (e.g., wire cloth, etc.)	270	.With separate packing actuator
223	FLEXIBLE JOINT, RIGID MEMBERS	271	.With removable ball seat
224	.Radial and longitudinal expansion compensators	272	SWIVEL
225	.Diaphragm	272.1	.With access opening
226	.Bellows	273	.Transverse cylinder in socket
227	..Multiple	274	.With yoke
228	...Balanced	275	.Pipe in socket type
229	..Single fold type	276	..With ball, ring or pin detent
230	.Concrete, clay, or masonry pipe	277	...With manipulator
231	.Socketed packing type	278	..With flange in socket
232	..With conduit gripping means (e.g., wedge ring)	279	...Spring-pressed flange
233	..Beaded conduit	280	...Flange locked axially
234	..Flared conduit	281	....Packed
235	.Resilient sleeve type	282	.With rotation limits
236	..Clamped	283	DETACHABLE HINGE
		284.1	WITH ACCESS OPENING
		285.1	MOLDED JOINT
		286.1	.Interlocked

286.2	..Deformed or having additional holding means	311	...Dead center lever systems (self-locking)
287.1	.With root repellent	312	...Cam lever
288.1	.Weld	313	..Restrainer for manipulator
288.2	..Axially spaced	314	..Cam sleeve
288.3	..Cold weld	315	...Reciprocating sleeve
288.4	..Flash weld	316	....Spring-biased sleeve
288.5	..Having additional holding means	317	..Spring-biased catch
288.6	...Interlocked	318	.Coil spring
288.7	..Having disassembly feature	319	.Leaf spring
288.8	..Having crack arresting feature	320	.Pivoted
288.9	..Reinforced	321	.Resilient ring
288.11	..Having pre-formed weld ring	322	MOVABLE JAW (E.G., CONTRACTIBLE SOCKET)
289.1	.Solder	323	.Wedge bushing
289.2	..Having additional holding means	324	.Reducing bushing
289.3	...Interlocked	325	SIDE SLIDE
289.4	..Having disassembly feature	326	.Clamping lever
289.5	..Having pre-placed solder	327	.Screw-thimble tightener
290.1	.Composite pipe (ends)	328	PARTICULAR INTERFACE
290.2	..Locked reinforcement	329	.Diverse metal
290.3	..Interlocked with pipe end	330	.Interlocked or overlapped
290.4	...Having additional holding means	331	.Annular socket
290.5	..Expansion/contraction	332	.Tapered
291.1	.Having screw interlock	332.1	..Conoidal
291.2	..Having interrupted thread	332.2	..Packed
292.1	.With lug and slot interlock	332.3	...Interface
293.1	.Lining or cover molded to pipe end	332.4	..Discontinuous interface surface
294.1	.Sleeve	333	...Threaded (e.g., drill pipe type)
294.2	..Wrapped	334	....Flat crest
294.3	..Sprue	334.1	..Adapter seat
294.4	...Having additional holding means	334.2	...Double-tapered internal sleeve
295.1	.With packing filler	334.3	...Elastomeric
295.2	..Wedge ring type	334.4	..Dissimilar
295.3	..Elastomeric	334.5	..Flared
296.1	.Sprue	335	PACKED
298	VARIABLE LENGTH	336	.With cooperating opposed packing grooves
299	.With bellows seal	337	.Externally with clamp
300	..Internal sleeve	338	.Radially expansible, spigot-carried
301	..With limit means	339	.Wedge
302	.Telescopic with relative motion	340	..Toggle ring type
303	.Step adjustment	341	..Double wedge surfaces
304	FRICTION DETENT (E.G., BREAKAWAY TYPE)	342	..Pushed
305	ESSENTIAL CATCH	343	..Compressed
306	.Line pressure-responsive	344	.. "Rolled-in" gasket
307	.Operated by conduit motion	345	.Frictional retention upon insertion
308	.With manipulator	346	..With packing-expanding means
309	..With means to increase contact pressure (e.g., tightener)	347	.Carried on cylindrical shank
310	...Separate actuator	348	.With separable follower
		349	.Supplemental packing socket

350	..Extrusion recess	394	CAM
351	.Plural seals	395	.Thimble
352	..Coacting opposed duplicates	396	.Bayonet type
353	.Screw thimble-gland	397	INTERNAL SLEEVE
354	.Screw thimble	398	.With external
355	.Screw	399	SOCKET
356	.Gland	400	.Detachable ring
357	..Threaded	401	.Lugged pipe, rotary engagement
358	.Cam	402	..Bayonet slot
359	..Thimble	403	.With separable fastener
360	..Lugged pipe, rotary engagement	404	..Set screw or pin
361	...Bayonet slot	405	FLANGE
362	...With manipulating ring	406	.Clamped
363	.Flanged pipe	407	..Band type
364	..Clamped	408	...With intermediate flange engaging member
365	...Band type	409	...Lever
366	....Screw	410	...Screw
367	.....Tangential	411	....Segmented ring
368	...Axially bolted	412	..Axially bolted
369	.Sleeve	413	..Rings
370	..Internal	414	.Detachable
371	...With external	415	..Split ring
372	..Dependent	416	.Fused
373	...Longitudinally divided	417	SLEEVE
374	.Socket	418	.Dependent
375	..Internal reciprocating packer	419	..Longitudinally divided
376	.Lugged pipe, rotary engagement	420	CLAMP
377	...With manipulating ring	421	.Wedge
378	.Diverse metal seat	422	MATERIALS
379	.Gasket retainer	423	.Nonmetallic
380	..Resilient stud	424	.Sheet
381.1	TEMPERATURE RESPONSIVE JOINT ELEMENT; E.G., SHRUNK FIT	425	MISCELLANEOUS
381.2	.Memory metal element		
381.3	..Having intermediate member		
381.4	.Memory plastic element		
381.5	..Having intermediate member		
382	DEFORMED		
382.1	.Both members	900	BALANCED PRESSURE
382.2	..Simultaneous	901	CAP CLOSURES
382.4	.Outwardly expanded	902	CANTED RING
382.5	..Bulged	903	CORRUGATED
382.7	.By separate deformable element	904	CRYOGENIC
383	DISTINCT SPACED SERIAL	905	DIFFERENT COEFFICIENTS OF EXPANSION
384	SCREW THIMBLE-GLAND	906	EQUIVALENTS
385	.Wedge	907	ELECTRICAL FIXTURES
386	SCREW THIMBLE	908	EXTRUSION HOLES
387	.Removable	909	FLUOROCARBONS AND MEMORY PLASTICS
388	..Detachable flange	910	GASKETS
389	.Wedge	911	GLASS
390	SCREW	912	GEAR
391	.Interrupted thread	913	INTERDIGITATING
392	.Attached thread bushing	914	IRREVERSIBLE
393	.Gland		

CROSS-REFERENCE ART COLLECTIONS

915 **MASTIC**
 916 **MOLECULAR CHANGE**
 917 **METALLIC SEALS**
 918 **O-RING**
 919 **RESINOUS**
 920 **REMOTELY CONTROLLED**
 921 **SNAP-FIT**
 922 **SAFETY AND QUICK RELEASE FOR**
 DRILL PIPES
 923 **SPECIFIC MATERIAL**
 924 **VENTED**
 925 **SWELLS WHEN WET**

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collection listed below. These collections contain ONLY foreign patents or nonpatent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

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 FOR 102 ..Swivel (285/122)
 FOR 103 ...With hollow center bolt (285/123)
 FOR 104 ..Detachable return band (285/124)
 FOR 105 ...With yoke clamp (285/125)
 FOR 106Removable bushing (285/126)
 FOR 107 ..Elbow (285/127)
 FOR 108 ..Pipe or cable and box (285/128)
 FOR 109 ..With attached closure flange (285/129)
 FOR 110 ..Receptacle inlet and outlet in unitary mounting (285/130)
 FOR 111 ..Plural noncommunicating paths (285/131)
 FOR 112 ..With branched flow (285/132)
 FOR 113 ..Concentric (285/133.1)
 FOR 114 ...Having suspension means (e.g., oil well head type, etc.) (285/133.2)
 FOR 115 ...With relative motion (e.g., drier drum type) (285/134)

FOR 116Ball and socket (285/135)
 FOR 117 ..With relative motion (285/136)
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 FOR 119 ...Having suspension means (e.g., oil well head type, etc.) (285/137.2)
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 FOR 121 ..Radially compressed packing (285/139)
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 FOR 123 ...Radially movable support ring (split ring type) (285/141)
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 FOR 125With intermediate member (285/143)
 FOR 126 ...Slip anchored inner tube (285/144)
 FOR 127With slip actuator (285/145)
 FOR 128With unitary slip and packing assembly (285/146)
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 FOR 130With packing seat on slip (285/148)
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